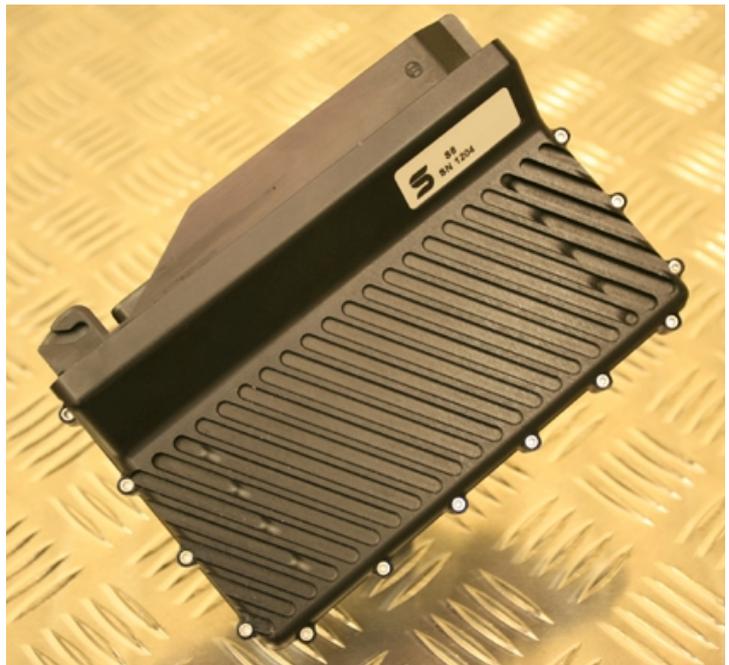


AIM Infotech

Syvecs

S4C S6PNP S6GP S8C ECU

Release 1.00



This tutorial explains how to connect Syvecs ECU to AIM devices. Supported Syvecs models are:

- S4C;
- S6PNP;
- S6GP;
- S8C.

1

Software setup

Syvecs ECU comes with Solaris software suite you will also use to make it communicating with AIM devices. After software installation 6 icons appears on the PC desktop. Double click on "SCal" icon as shown here below.



Solaris "SCal" main page is shown here below.



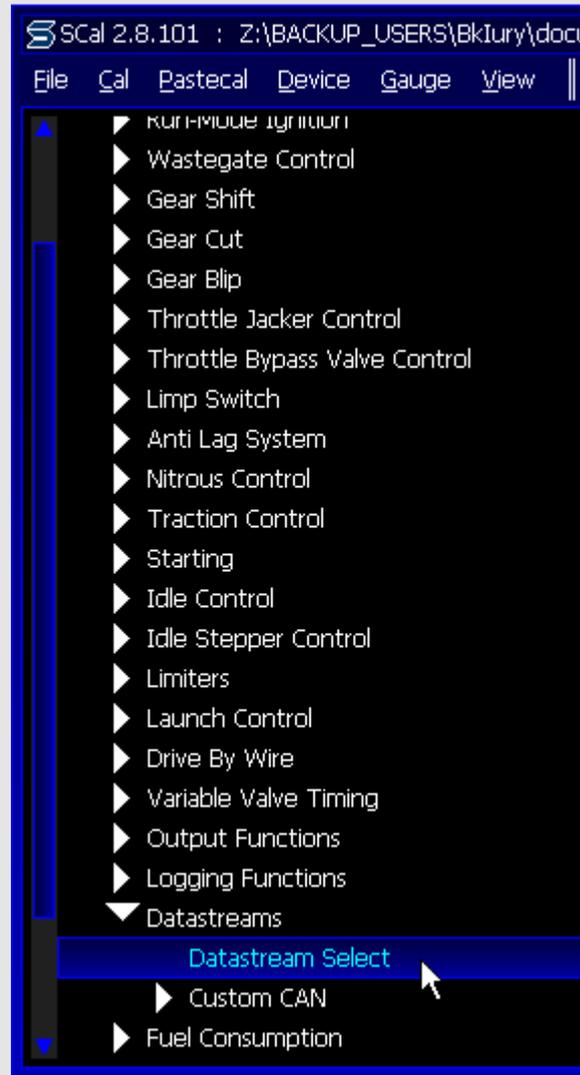
Follow this path: "File -> Load".



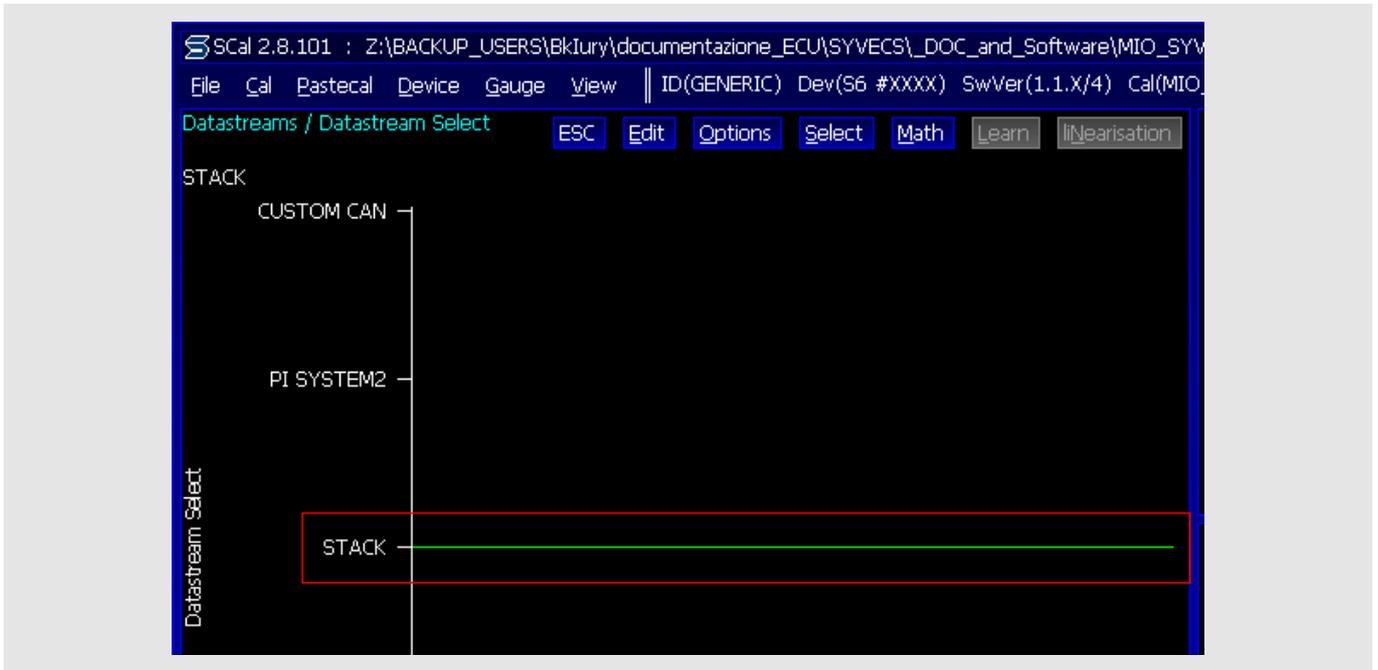
Browse the PC to find the folder where you stored the calibration file and select it. This panel appears. Press "OK".



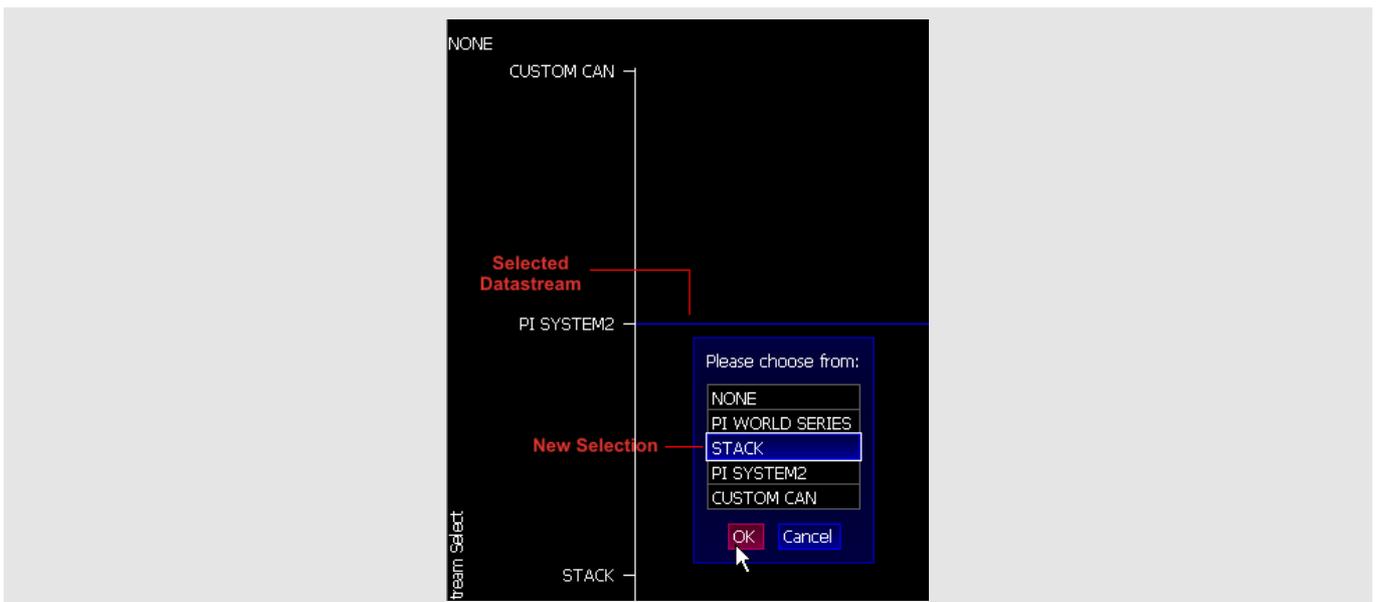
A list of possible options appears: scroll it up to "Datastreams" and press "enter"; select "Datastream Select" as shown below and press enter.



Check which datastream is selected. If Stack is – as here below – you can come back to the previous page through the path “File –> Load”.

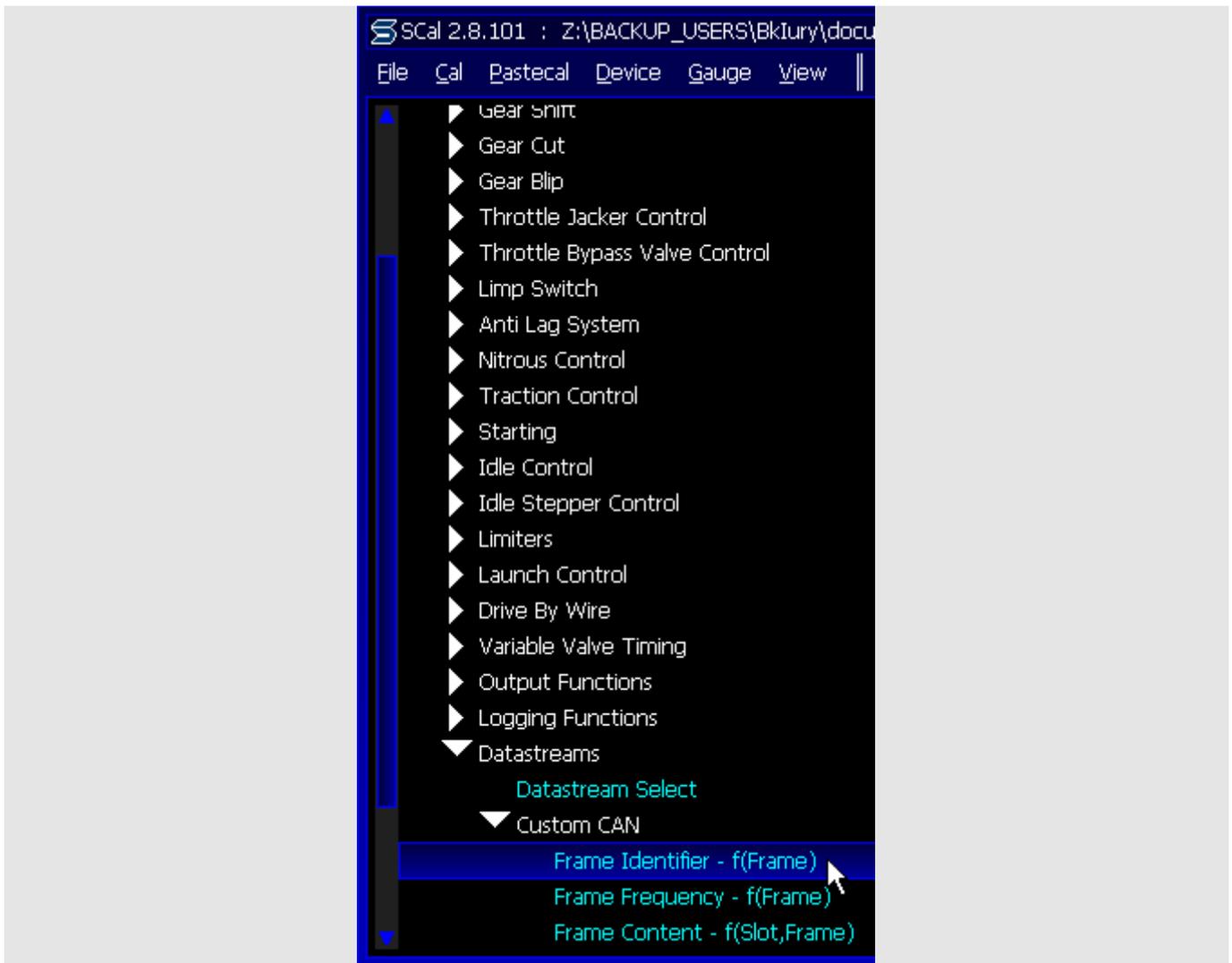


If it is not – as here below – press “enter”; a panel appears, scroll the options, select “Stack” and press “OK”.

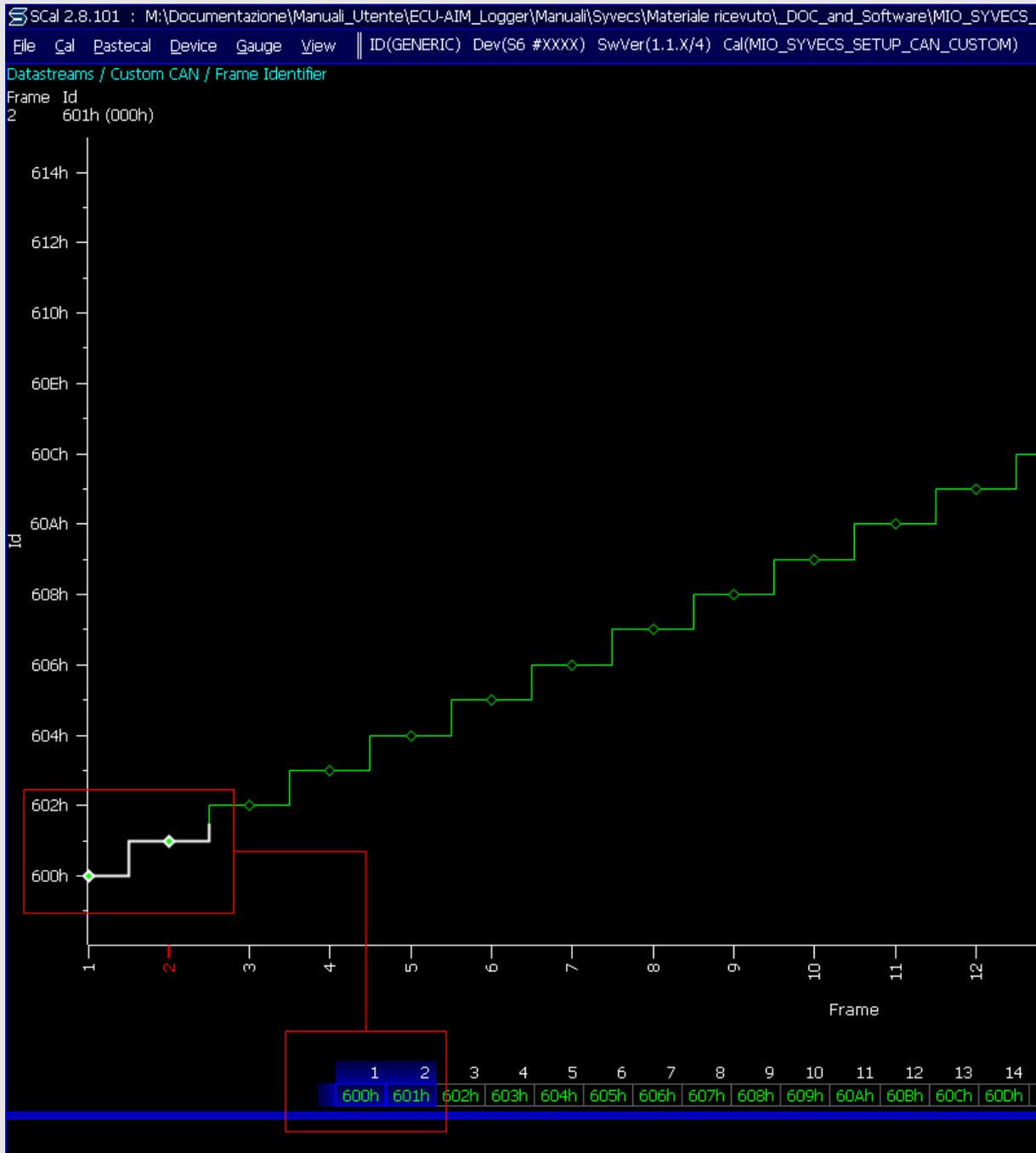


Come back to the main page following the path "File -> Load".

Scroll the list following this path: "Datastreams -> Custom CAN -> Frame Identifier".



“Frame Identifier” page appears. ID Adress 0x600 and 0x601 should already be selected as here below. If they aren’t, you have to manually fill in all ID Addresses. Please refer to your ECU user manual to know what to do.

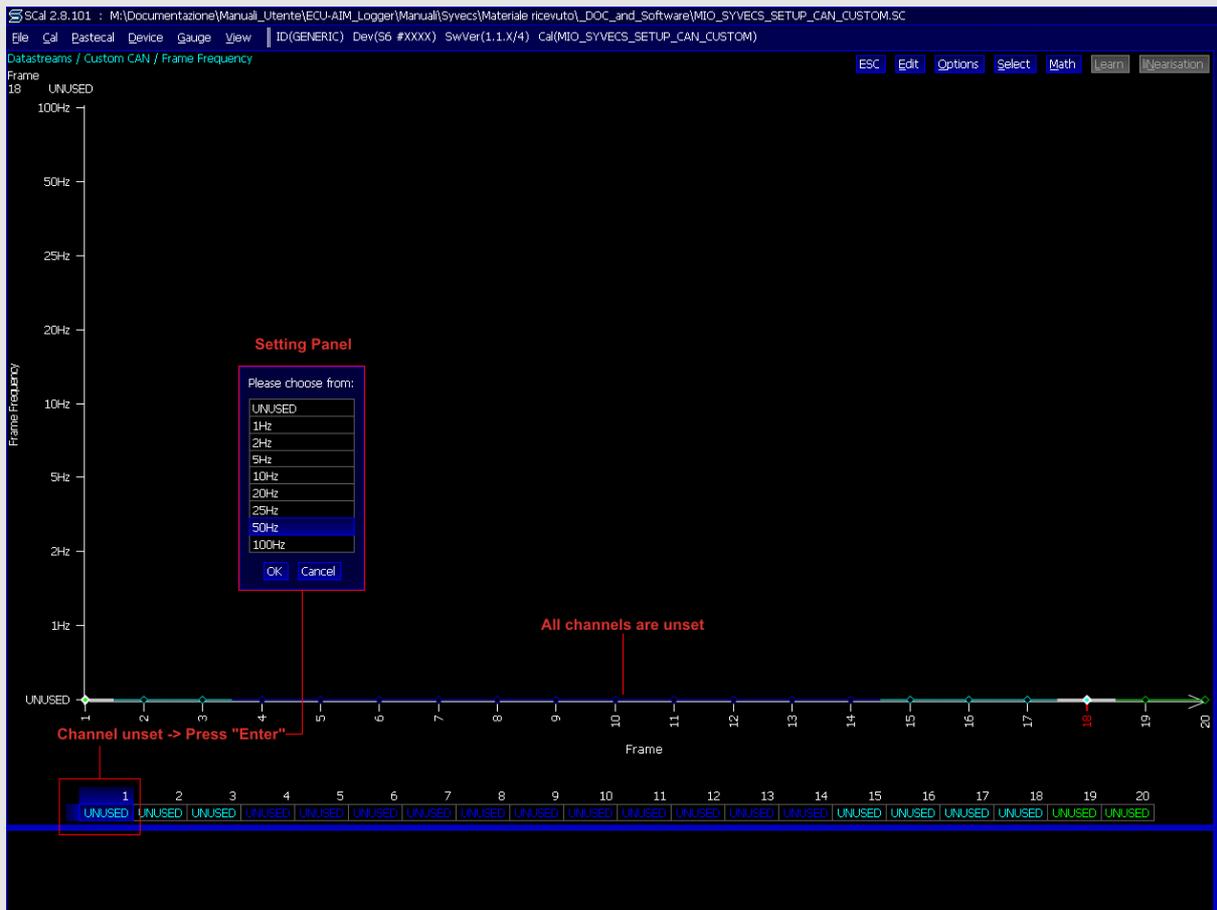




Come back to the main page through the path "File -> Load". Scroll the list following this path: "Datastreams -> Custom CAN -> Frame Frequency". "Frame frequency" page appears. Here below it is already set.



If the page appears with all frequencies unset (labelled as "UNUSED") – as below, select the first channel, press "enter" and when the setting panel appears select the desired frequency and press "OK". Please refer to your ECU user manual to know how to set each channel frequency.





Come back to the main page through the path "File -> Load". Scroll the list following this path: "Datastreams -> Custom CAN -> Frame Content". "Frame Content" page appears. Here below it is already set.

The screenshot shows the 'Frame Content' configuration page in the software. The top part features a 3D plot with axes labeled 'Frame Content', 'Frame', and 'Slot'. The plot displays a complex network of green lines representing data connections. Below the plot is a table with 20 rows and 4 columns, detailing the parameters for each frame. A red box highlights the first 10 rows of the table, and a red arrow points to this box with the text 'All engine parameters are correctly set'.

| | 1 | 2 | 3 | 4 |
|----|-----------------------|---------------------|------------------------|-------------------|
| 1 | rpm(S) | ppsA(S) | vbat(S) | longG(S) |
| 2 | map1(S) | prp1(S) | turboSpeed1DeSpiked(S) | tps1(S) |
| 3 | map2(S) | prp2(S) | turboSpeed2DeSpiked(S) | SPARE(U) |
| 4 | relFp1(S) | lam1(S) | fuelMtrCl1(S) | SPARE(U) |
| 5 | relFp2(S) | lam2(S) | fuelMtrCl2(S) | SPARE(U) |
| 6 | act1(S) | ect1(S) | egt1(S) | btMax(S) |
| 7 | act2(S) | ect2(S) | egt2(S) | SPARE(U) |
| 8 | ccp1(S) | ccp2(S) | ccp3(S) | ccp3(S) |
| 9 | eop1(S) | eop2(S) | eop3(S) | eop4(S) |
| 10 | ent(S) | ft(S) | erp(S) | bp(S) |
| 11 | engineEnable(U) | calSwitch(U) | tcSwitch(U) | pitSwitch(U) |
| 12 | clutchSwitch(U) | SPARE(U) | wow(U) | autoStartState(U) |
| 13 | fuelConsLR(U) | sensorSwitch(U) | alsState(U) | SPARE(U) |
| 14 | gearCutDogId:Count(U) | gearCutFallCount(U) | dbwStatus(U) | knobStatus(U) |
| 15 | gearV(U) | gear(S) | SPARE(U) | SPARE(U) |
| 16 | fSpeed(S) | frSpeed(S) | rSpeed(S) | rrSpeed(S) |
| 17 | swa(S) | lat(S) | vehicleSpeed(S) | drivenSpeed(S) |
| 18 | wheelSpin(S) | tcSpinTarg(S) | tcSpinErr(S) | tcTrq(S) |
| 19 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 20 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |

If the page appears with all frequencies NOT SET – as below – you need to set each engine parameter.

SCal 2.8.101 : M:\Documentazione\Manual_Utente\ECU-AIM_Logger\Manual\Syvecs(Materiale ricevuto)_DOC_and_Software\MIO_SYVECS_SETUP_CAN_CUSTOM.SC

File Cal Pastecal Device Gauge View || ID(GENERIC) Dev(S6 #XXXX) SwVer(1.1.X/4) Cal(MIO_SYVECS_SETUP_CAN_CUSTOM)

Datastreams / Custom CAN / Frame Content

Slot Frame

1 18 NOT_SET

Frame Content

- wgTurboPDDuty2(S)
- vwTinBase(S)
- turboSpeed2(S)
- tpsIAIC(U)
- syncFault(U)
- prp1(S)
- loadCalSum(S)
- lpp2V(U)
- gearCutInputV(U)
- fuelBase1(U)
- eop2V(U)
- dbwTargBlp(S)
- clTargAddEgt2(S)
- an16V(U)
- NOT_SET

Frame

Slot

| | 1 | 2 | 3 | 4 |
|----|---------|---------|---------|---------|
| 1 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 2 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 3 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 4 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 5 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 6 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 7 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 8 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 9 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 10 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 11 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 12 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 13 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 14 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 15 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 16 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 17 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 18 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 19 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 20 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |

All engine parameters are "NOT SET"

To set engine parameters:

- select the first cell and press "enter";
- the panel showing all available channels appears;
- you can filter channels typing the name of the desired channel or part of it. The first cell is for "RPM" so type "rpm" and the panel resizes reducing the number of available channels. Select the desired RPM channel and press OK. Repeat this operation for all channels.

Here below are a graph illustrating this operation (using "RPM" channel as example).

The screenshot shows a software interface with a graph on the left and a list of channels on the right. The graph displays various engine parameters over time. The channel list on the right is filtered to show only channels containing 'rpm'. A search box at the top right of the list contains the text 'rpm'. The channel 'rpm(S)' is highlighted in blue. Red annotations with arrows point to the search box and the filtered list, explaining the filtering process.

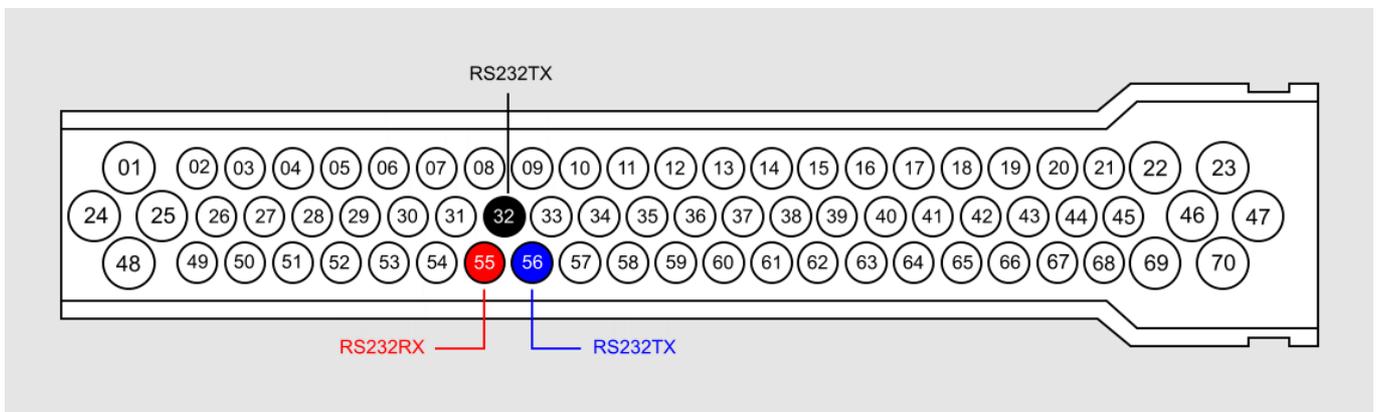
Here follows the table with all channels setting.



| | 1 | 2 | 3 | 4 |
|----|-----------------------|--------------------|-----------------------|------------------|
| 1 | rpm_S | ppsA_S | vbat_S | longG_S |
| 2 | map1_S | prp1_S | turboSpeed1DeSpiked_S | tps1_S |
| 3 | map2_S | prp2_S | turboSpeed2DeSpiked_S | SPARE_U |
| 4 | relFp1_S | lam1_S | fuelMltCII1_S | SPARE_U |
| 5 | relFp2_S | lam2_S | fuelMltCII2_S | SPARE_U |
| 6 | act1_S | ect1_S | egt1_S | btMax_S |
| 7 | act2_S | ect2_S | egt2_S | SPARE_U |
| 8 | ccp1_S | ccp2_S | ccp3_S | ccp3_S |
| 9 | eop1_S | eop2_S | eop3_S | eop4_S |
| 10 | eot_S | ft_S | ecp_S | bap_S |
| 11 | engineEnable_U | calSwitch_U | tcSwitch_U | pitSwitch_U |
| 12 | clutchSwitch_U | SPARE_U | wow_U | autoStartState_U |
| 13 | fuelConsLR_U | sensorSwitch_U | alsState_U | SPARE_U |
| 14 | gearCutDogKickCount_U | gearCutFailCount_U | dbwStatus_U | knockStatus_U |
| 15 | gearV_U | gear_S | SPARE_U | SPARE_U |
| 16 | flSpeed_S | frSpeed_S | rlSpeed_S | rrSpeed_S |
| 17 | swa_S | latG_S | vehicleSpeed_S | drivenSpeed_S |
| 18 | wheelSpin_S | tcSpinTarg_S | tcSpinErr_S | tcTrq_S |
| 19 | NOT_SET | NOT_SET | NOT_SET | NOT_SET |
| 20 | | | | |

2 Serial communication setup

Syvecs ECUs communicate using the serial protocol. All supported ECU – S4C, S6PNP, S6GP, S8C – are equipped with a 70 pins connector. Here below are shown the 70 pins connector as well as the connection table.



| 70 pins Connector pin | Pin function | AIM cable label |
|-----------------------|-------------------|-----------------|
| 56 | RS232TX | RS232RX |
| 55 | RS232RX | RS232TX |
| 32 | Communication GND | GND |

3 AIM Logger configuration

Once the ECU connected to the logger, this last one is to be configured as connected to the ECU.

Run Race Studio 2 software and follow this path:

- Device Configuration –> Select the device you are using;
- select the configuration or press “New” to create a new one;
- select ECU manufacturer “Syvecs” and ECU Model “Stack_Datastream”;
- transmit the configuration to the device pressing “Transmit”.

4

Available channels

Channels received by AIM devices connected to Syvecs S4C, S6PNP, S6GP or S8C are:

| ID | CHANNEL NAME | FUNCTION |
|--------|----------------|---------------------------|
| ECU_1 | ECU_RPM | RPM |
| ECU_2 | ECU_SPEED | Speed |
| ECU_3 | ECU_OIL_PRESS | Oil pressure |
| ECU_4 | ECU_OIL_TEMP | Oil temperature |
| ECU_5 | ECU_WATER_TEMP | Water temperature |
| ECU_6 | ECU_FUEL_PRESS | Fuel pressure |
| ECU_7 | ECU_BATT_VOLT | Battery supply |
| ECU_8 | ECU_THRT_ANGLE | Throttle angle |
| ECU_9 | ECU_MAP | Manifold Air pressure |
| ECU_10 | ECU_AIR_CHARGE | Air charge |
| ECU_11 | ECU_EXH_TEMP | Exhausted gas temperature |
| ECU_12 | ECU_LAMBDA | Lambda value |
| ECU_13 | ECU_FUEL_TEMP | Fuel temperature |
| ECU_14 | ECU_GEAR | Engaged gear |
| ECU_15 | ECU_ERRORS | ECU error |
| ECU_16 | ECU_COUNTER | ECU counter |
| ECU_17 | ECU_FUEL_USED | Used fuel |